Applicant: Ralph Wirth, et al.

Serial No.: 10/089,017

Attorney's Docket No.: 12406022US1 / 1999P4773USN

Filed : March 25, 2002

Page : 2 of 9

## Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

## Listing of Claims:

- 1. (Previously presented): A light-emitting diode, comprising
  - a semiconductor layer structure including a substrate and at least one lightgenerating layer formed on said substrate and one transparent current-spreading layer deposited on said light-generating layer,
    - a first electrical contact layer on the back of said substrate, and
  - a second electrical contact layer disposed on said current-spreading layer, characterized in that
  - the top surface of said current-spreading layer has vertical structuring to improve the decoupling of light, and
  - -said second electrical contact layer has a lateral structure by means of which substantially uniform coupling of the electrical current into said current-spreading layer can be achieved.
- 2. (Previously presented): The light-emitting diode as described in claim 1, characterized in that
  - said second electrical contact layer is a central contact surface and, arranged about said central contact surface, a contact structure that is rotationally symmetrical with respect to the center point of said central contact surface and is composed of relatively narrow contact webs and/or contact points.
- 3. (Previously presented): The light-emitting diode as described in claim 2, characterized in that

 Applicant : Ralph Wirth, et al.
 Attorney's Docket No.: 12406 

 Serial No. : 10/089,017
 022US1 / 1999P4773USN

Filed : March 25, 2002

Page : 3 of 9

- the rotational symmetry is a symmetry represented by a whole number.

4. (Previously presented): The light-emitting diode as described in claim 1, characterized in that said second electrical contact layer is realized as continuous.

- 5. (Previously presented): The light-emitting diode as described in claim 1, characterized in that
  - said second electrical contact layer is discontinuous and is interconnected by a layer of transparent, light-conducting material.
- 6. (Previously presented): The light-emitting diode as described in claim 1, characterized in that said second electrical contact layer is arranged on structured and/or unstructured portions of said current-spreading layer.
- 7. (Currently amended): The light-emitting diode as described in claim 1, characterized in that
  - the vertical structuring is in the form of n-sided ( $n \ge 3$ ) pyramids[[,]] <u>or</u> frusta of pyramids[[,]]<del>cones or frusta of cones</del>.
- 8. (Previously presented): A method for fabricating a light-emitting diode as described in claim 1, characterized in that
  - a light-generating layer and thereafter a relatively thick and transparent currentspreading layer are deposited on a substrate and the back of said substrate is provided with a first electrical contact layer,
  - vertical structuring to improve the decoupling of light is produced in the surface of said current-spreading layer,
  - a second electrical contact layer having the desired lateral structure is deposited on the structured top surface of said current-spreading layer.

 Applicant : Ralph Wirth, et al.
 Attorney's Docket No.: 12406 

 Serial No. : 10/089,017
 022US1 / 1999P4773USN

Filed : March 25, 2002

Page : 4 of 9

9. (Previously presented): The method for fabricating a light-emitting diode as described in claim 1, characterized in that

- a light-generating layer and thereafter a relatively thick and transparent currentspreading layer are deposited on a substrate and the back of said substrate is provided with a first electrical contact layer,
- a second electrical contact layer having the desired lateral structure is deposited on the top surface of said current-spreading layer, and
- vertical structuring to improve the decoupling of light is produced in the top surface of said current-spreading layer outside the areas of said second electrical contact layer.
- 10. (Previously presented): The light emitting diode of claim 2 wherein said central contact surface is a circular contact surface.
- 11. (Previously presented): The light emitting diode of claim 2 wherein said central contact surface is a square contact surface.
- . 12. (Previously presented): The light emitting diode of claim 3 wherein said rotational symmetry matches the rotational symmetry of the light-emitting diode.
  - 13. (Previously presented): The light emitting diode of claim 7 wherein said n-sided ( $n \ge 3$ ) pyramids[[,]] or frusta of pyramids, cones or frusta of cones are regularly arranged.
  - 14. (Previously presented): A light-emitting diode, comprising
    - a semiconductor layer structure including a substrate and at least one lightgenerating layer formed on said substrate and one transparent current-spreading layer deposited on said light-generating layer,

Applicant: Ralph Wirth, et al.

Serial No.: 10/089,017

Attorney's Docket No.: 12406022US1 / 1999P4773USN

Serial No.: 10/089,017 Filed: March 25, 2002

Page : 5 of 9

- a first electrical contact layer on the back of said substrate, and

- a second electrical contact layer disposed on said current-spreading layer, characterized in that

- the top surface of said current-spreading layer has vertical structuring to improve the decoupling of light, and

-said second electrical contact layer has a lateral structure by means of which substantially uniform coupling of the electrical current into said current-spreading layer can be achieved,

wherein said second electrical contact layer has a lateral structure with a circumferential contact web arranged about a central contact structure.

15. (New): The light-emitting diode as described in claim 1, characterized in that
- the vertical structuring is in the form of cones or frusta of cones.

16. (New): The light emitting diode of claim 15 wherein said cones or frusta of cones are regularly arranged.